REMOVAL PROGRAM
PRELIMINARY ASSESSMENT/
SITE INVESTIGATION
FOR
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT
APRIL 7, 1995

Prepared For:

U.S. Environmental Protection Agency
Region I
60 Westview Street
Lexington, MA 02173

CONTRACT NO: 68-WO-0036

TDD NO. 01-9503-29

PCS NO. 1271

DC NO. 02489

Prepared By:

ROY F. WESTON INC.
Technical Assistance Team
Region I

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I. Preliminary Assessment/Site Investigation Forms

EPA REGION I
REMOVAL PRELIMINARY ASSESSMENT

Site Name and Location

Name: 4 Franklin Street **Location:** 4 Franklin Street
Town: Montpelier **County:** Washington **State:** Vermont

Site Status: ( )**NPL** (X)**NON-NPL** ( )**RCRA** ( )**TSCA**
( )**ACTIVE** ( )**ABANDONED** (X)**OTHER** Residential area

(X)**Attached USGS Map of Location** (X)**Site I.D. #:** VTD966366704

Referral

( )**Citizen** ( )**City/Town** (X)**State** ( )**Preremedial**
( )**RCRA** ( )**Other:**
Name of referring party: Michael W. Young **Phone:** (802) 241-3888
Address: Vermont Department of Environmental Conservation (VT DEC)
Hazardous Materials Management Division
103 South Main Street, West Building, Waterbury, VT 05671

Contacts Identified

1) Scott Fortney (Director) of the Franklin Square Condominium Association **Phone:** (802) 229-4835

2) Patsy Hickey - Wife of Mr. Fortney **Phone:** (802) 229-4835

Source of Information

( ) **Verbal:**
(X) **Report:** VT DEC Potential Hazardous Waste Site Assessment Report, July 1992
( ) **Other:**

Potential Responsible Parties

Owner: Scott Fortney: (Director) Franklin Square Condominium Association **Phone:** (802) 229-4835
Address:
Operator: Sherry Russell: (President) Franklin Square Condominium Association **Phone:** (802) 223-4013
Address:

Site Access

Authorizing Person: Sherry Russell - President of the Franklin Square Condominium Association
Date: 29 March 1995 (X)**Obtained** (X)**Verbal**
Phone: 802-223-4013 ( )**Not Obtained** ( )**Written**

Physical Site Characterization

Background Information: A four unit condominium occupies a site believed to be a former tannery that was in operation in the late 1800s. Since the early 1900s, a private residence has been located on the site. In October 1989, VT DEC investigated an ash layer below the land's surface. Photoionization detector (PID) readings of 30 parts per million (ppm) and 200 ppm were recorded from augered holes. Soil sample analyses revealed the presence of semivolatile organic compounds (SVOCs) and metals. Volatile organic compounds (VOCs) were analyzed for, but were not detected in any of the samples (VT DEC Site Investigation Report for 4 Franklin Street, July 1992).

Description of Substances Possibly Present, Known or Alleged:
SVOCs include acenaphthalene, phenathrene, flouranthene, pyrene, chrysene, phenol, napthalene, and benzo(B)pyrene.
Metals include lead and arsenic.

Existing Analytical Data

(Identify source, date and methodology)

(X) **Real-Time Monitoring Data:** VT DEC Site Investigation Report for 4 Franklin Street, July 1992. PID readings from augered holes.

(X) **Sampling Data:** VT DEC Site Investigation Report for 4 Franklin Street, July 1992. Soil sample results for metals, volatiles, and semivolatile organic compounds.

Potential Threat

Description of potential hazards to environment and/or population -identify any of the criteria for a Removal Action (from NCP) that may be met by the site under 40 CFR 300.415 [b] [2].

i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.

ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems.

iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

v. Weather conditions that may cause hazardous substances or

pollutants or contaminants to migrate or be released.

vii. The availability of other appropriate federal or state response mechanisms to respond to the release.

viii. Other situations or factors that may pose threats to public health or welfare or the environment.

Prior Response Activities

( ) **PRP** (X) **STATE** ( ) **FEDERAL** ( ) **OTHER**

Brief Description: VT DEC conducted a site investigation in October 1989. PID readings were recorded and soil samples (surface and depth) were collected and analyzed for metals, VOCs and SVOCs.

Priority for Site Investigation

(X) **High** ( ) **Medium** ( ) **Low** ( ) **None**

Comments: N/A

Report Generation

Originator: Thomas Campbell
Affiliation: Roy F. Weston, Inc. (TAT)
TDD#: 01-9503-29

Date: 26 April 1995
Phone: (617) 229-6430
PCS#: 1271

EPA REGION I
REMOVAL SITE INVESTIGATION

Inspection Information

Site Name: 4 Franklin Street **Address:** 4 Franklin Street
Town: Montpelier **County:** Washington **State:** Vermont
Date of Inspection: 7 April 1995 **Time of Inspection:** 1000 hours
Weather Conditions: Clear, 45°F
Site Status at Time of Inspection: (X) **ACTIVE** ( ) **INACTIVE**
Comments: The site is an occupied residence (four unit condominium)

Agencies/Personnel Performing Inspection

	Names	Program
(X) **EPA:**	Frank Gardner	U.S. Environmental Protection Agency Emergency Planning and Response Branch
(X) **EPA Contractor:**	Thomas Campbell	Roy F. Weston, Inc. Technical Assistance Team
(X) **State:**	Michael Young	Hazardous Materials Management Division Department of Environmental Conservation State of Vermont
( ) **Other :**		

Current Owner Based on Field Interview: N/A

Physical Site Characteristics

(see site diagram)

Parameter	Quantities/Extent
( ) **Cylinders:**	
( ) **Drums:**	
( ) **Lagoons:**	
( ) **Tanks:** ( ) **Above:**	
( ) **Below:**	
( ) **Asbestos:**	
( ) **Piles:**	
( ) **Stained Soil:**	
( ) **Sheens:**	
( ) **Stressed Vegetation:**	
( ) **Landfill:**	
(X) **Population in Vicinity:**	The site is an occupied residence (four unit condominium)
( ) **Wells:** ( ) **Drinking:**	
( ) **Monitoring:**	
( ) **Other:**	

REMOVAL SITE INVESTIGATION

Physical Site Observations

The 4 Franklin Street site is located in the City of Montpelier (Washington County) in central Vermont and consists of approximately 0.75 acres. The site is bordered to the northwest by the Winooski River, to the northeast by a residential building, to the southwest by the Masonic Temple building and a parking lot, and to the east by Franklin Street. The site is located in an area zoned as high density residential. (See site diagram)

Field Sampling and Analysis

Matrix	Analytical Parameter	Field Instrumentation CGI/O_2	RAD	PID
Background Readings:		0 LEL, 20.8%,	5 uR/hr,	0.9 units
Air:		0 LEL, 20.8%,	7-5 uR/hr,	1.0-1.6 units
Soil:				
Surface:				
Water:				
Tanks:				
Drums:				
Vats:				
Lagoons:				
Spillage:				
Run Off:				
Piles:				
Sediments:				
Ground Water:				
Other:				

Field Quality Control Procedures

(X) SOP Followed ( ) Deviation From SOP

Comments: N/A

Description of Sampling Conducted

Station 1: Garden Plot; extractable base/neutrals and acids (BNAs) and metals; soil media

Station 2: Yard adjacent to river; BNAs and metals; soil media

Station 3: Garden Plot; BNAs and metals; soil media

Station 4: Garden Plot; BNAs and metals; soil media

Station 5: Strawberry Patch; BNAs and metals; soil media

REMOVAL SITE INVESTIGATION

Analyses

Analytical Parameter	Media	Laboratory
( ) VOA	( ) AIR	(X) NERL
( ) PCB	( ) WATER	( ) CLP
( ) PESTICIDE	(X) SOIL	( ) PRIVATE
(X) METALS	( ) SOURCE	( ) SAS
( ) CYANIDE	( ) SEDIMENT	( ) SOW
(X) SEMI VOA (BNA)		
( ) TOXICITY		
( ) DIOXIN		
( ) ASBESTOS		
( ) OTHER		

Receptors

Comments

( ) **Drinking Water** ( ) **Private:** ( ) **Municipal:**
( ) **Ground Water:**
(X) **Unrestricted Access:** Open and unfenced areas
(X) **Population in Proximity:** Adjacent to four unit condominium
(X) **Sensitive Ecosystem:** Adjacent to the north branch of the Winooski River
( ) **Other:**

Additional Procedures for Site Determination

( ) **Biological Evaluation** ( ) **ATSDR**

To be determined after sample results are received.

Site Determination

Depending on further information, criteria that may be met by the site include 40 CFR 300.415 [b] [2], parts:

i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants.

ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems.

iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

vii. The availability of other appropriate federal or state response mechanisms to respond to the release.

viii. Other situations or factors that may pose threats to public health or welfare or the environment.

Report Generation	
Originator: Thomas Campbell	**Date:** 26 April 1995
Affiliation: Roy F. Weston, Inc. (TAT)	**Phone:** (617) 229-6430
TDD#: 01-9503-29	**PCS#:** 1271

II. Narrative Chronology

NARRATIVE CHRONOLOGY

On 7 April 1995, U.S. Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) Frank Gardner and Roy F. Weston, Inc., Technical Assistance Team (TAT) member Thomas Campbell traveled to the 4 Franklin Street site in Montpelier, Washington County, Vermont (see Appendix A - Site Location Map) to conduct a preliminary assessment/site investigation (PA/SI). The site consisted of one occupied residential building and a backyard with garden plots. The site is adjacent to the north branch of the Winooski River (see Appendix B - Site Diagram). Previous sampling activities conducted during site visits by the Vermont Department of Environmental Conservation (VT DEC) revealed the presence of semivolatile organics and metals in soil samples. The PA/SI was conducted to determine whether a removal action at the site would be warranted based on analytical results from samples collected. Samples would be analyzed for metals and extractable base/neutrals and acids (BNAs).

Once at the site, OSC Gardner and TAT member Campbell conducted air monitoring with an Microtip Photoionization Detector (PID), MSA Combustible Gas Indicator/Oxygen (CGI) Sensor and Ludlum Radiation Meter (see Appendix C - Health and Safety Plan) during a site walk-through. CGI and radiation readings were not above background levels. PID readings were above background levels and ranged from 1.0 - 1.6 units. Michael Young from the VT DEC arrived on the site to provide background information and indicate the locations where previous soil samples were collected. Several small pieces of coal and clinker (a hard mass of fused stony material formed in a furnace from impurities in the coal (Webster's Unabridged Dictionary, 2nd edition)), was observed by OSC Gardner and TAT member Campbell on the ground adjacent to the garden plots.

OSC Gardner determined that surface soil samples would be collected from five stations. The locations of the stations included the garden plots and the yard adjacent to the river bank. OSC Gardner collected the soil samples with the assistance of M. Young. TAT member Campbell filled out chain-of-custody documentation, labeled, and stored the samples in cans with ice packs. The cans were then placed into cardboard shipping boxes. TAT member Campbell photodocumented the site and sample stations.

OSC Gardner and TAT Campbell departed the site and proceeded to the EPA New England Regional Laboratory (NERL). Samples were relinquished to Sample Log-In Coordinator Kathy Jarek at NERL.

Appendix A

Site Location Map

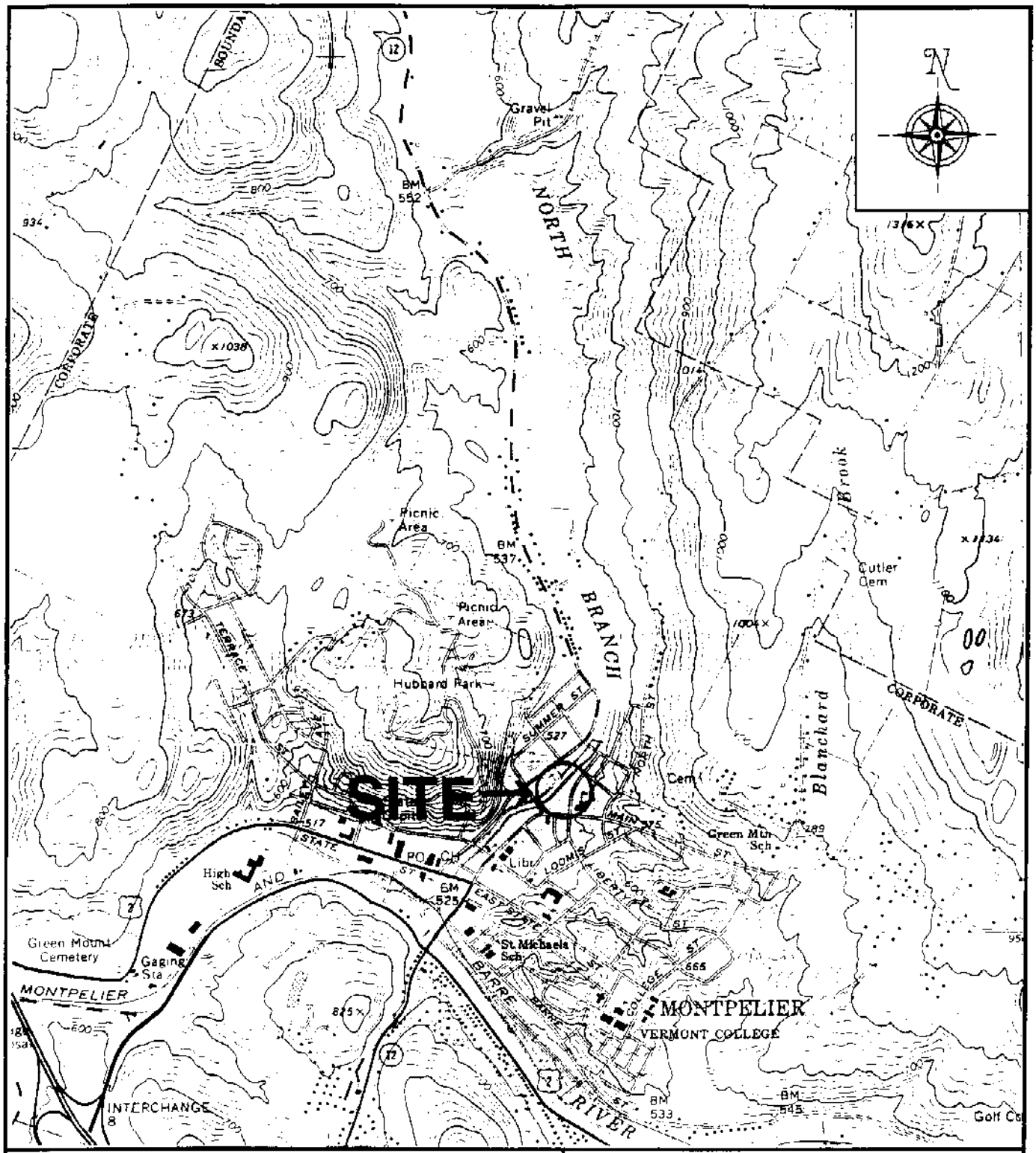

FIGURE 1

SCALE 1:24 000

SITE LOCATION MAP
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT

SOURCE: UNITED STATES GEOLOGICAL SURVEY
MONTPELIER, VERMONT QUADRANGLE.
7.5 MINUTE SERIES (TOPOGRAPHIC), 1968.

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DRAWN BY	DATE	PCS #
SULLIVAN	04/95	1271
APPROVED BY	DATE 4/95	TDD # 01-9503-29

Appendix B

Site Diagram

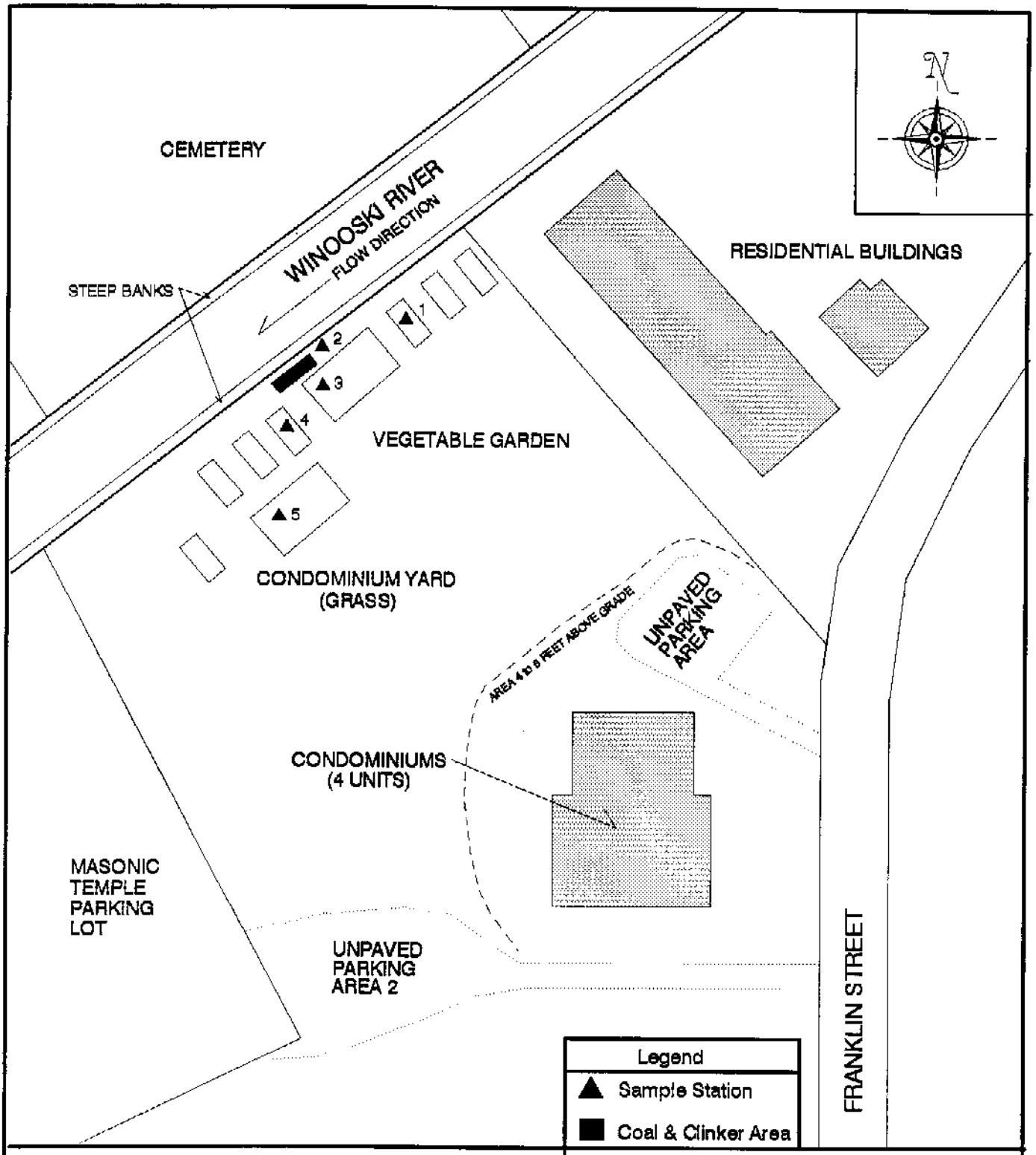

FIGURE 2

NOT TO SCALE

SITE DIAGRAM
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT

SOURCE: Adapted from Figure 2 - SI Sample Locations (diagram) in Vermont Department of Environmental Conservation report entitled, "Potential Hazardous Waste Site, Site Assessment", July 1992.

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SULLIVAN	04/96	1271
APPROVED BY	DATE	TDD #
[signature]	5/95	01-9503-29

Appendix C

Health and Safety Plan

COPY

ROY F. WESTON, INC.
TECHNICAL ASSISTANCE TEAM
REGION I
HEALTH AND SAFETY PLAN
EMERGENCY RESPONSE/SITE INVESTIGATION

TDD No. 01-9503-29 **PCS No.** 1271 **Site Name:** 4 Franklin Street
Site Address: Street No. 4 Franklin Street
City Montpelier
County/State Washington, Vermont
Site Contact/Phone No.: Sherry Russell 802-223-4013

Directions to Site: (Att. Map) Route 128 north to I-93 north. Take exit 1 to I-89. Follow into Vermont. Take exit 8 for Montpelier. Follow Memorial Drive north to Main Street. Turn north (left) onto Main Street. Take left onto Franklin Street after 3/4 mile. Site is 4 Franklin Street (on left)
Historical/Current Site Information: A four unit condominium occupies a site believed to be a former tannery that was in operation during the late 1800's. Since the early 1900's the site has been used as a private residence. In October 1989 VT DEC investigated an ash layer below the land's surface. HNu readings of 30ppm and 200ppm were observed from augered holes. Soil sample analysis revealed the presence of SVOCs and metals.

Incident Type:
( ) Air Release -
( ) Spill -
( ) Fire -
(X) HW Site - ash layer below land surface

Location Class: ( ) Industrial ( ) Commercial (X) Urban/Residential ( ) Rural

USEPA Contact: Frank Gardner **Date of Initial Site Activities:** 04 / 07 /95
Original HASP: YES X **Modification Number:** NA
Lead TAT: Tom Campbell **Site Health & Safety Coordinator:** Tom Campbell

Response Activities/Duration (fill in as applicable)

		Duration
Emergency Response:	( ) Perimeter Recon.	N/A
	( ) Site Entry	N/A
	( ) Visual Documentation:	N/A
	( ) Multi-media Sampling:	N/A
	( ) Decontamination:	N/A
Assessment:	(X) Perimeter Recon.	.5 hr
	(X) Site Entry	.5 hr
	(X) Visual Documentation:	.5 hr
	(X) Multi-media Sampling:	2.0 hr
	(X) Decontamination:	.5 hr

Physical Safety Hazards to Personnel

( ) Heat (X) Cold ( ) Precipitation ( ) Confined Space (X) Terrain
( ) Walking/Working Surfaces ( ) Fire & Explosion ( ) Oxygen Deficiency
( ) Underground Utilities ( ) Overhead Utilities ( ) Heavy Equipment
( ) Unknowns in Drums, Tanks, Containers ( ) Ponds, Lagoons, Impoundments
(X) Rivers, Streams ( ) Pressurized Containers, Systems ( ) Noise
( ) Illumination ( ) Nonionizing ( ) Ionizing Radiation

Biological Hazards to Personnel

( ) Infectious/Medical/Hospital Waste (X) Non-domesticated Animals
( ) Insects (X) Poisonous Plants/Vegetation ( ) Raw Sewage

Training Requirements

(X) 40 Hour General Site Worker Course with three days supervised experience.
( ) 24 Hour Course for limited, specific tasks with one day supervised experience.
( ) 24 Hour Course for Level D Site with one day supervised experience.
(X) 8 Hour Annual Refresher Health and Safety Training.
(X) 8 Hour Management/Supervisor Training in addition to basic training course.
( ) Site Specific Health and Safety Training.
( ) Pre-entry training for emergency response skilled support personnel.

Medical Surveillance Requirements

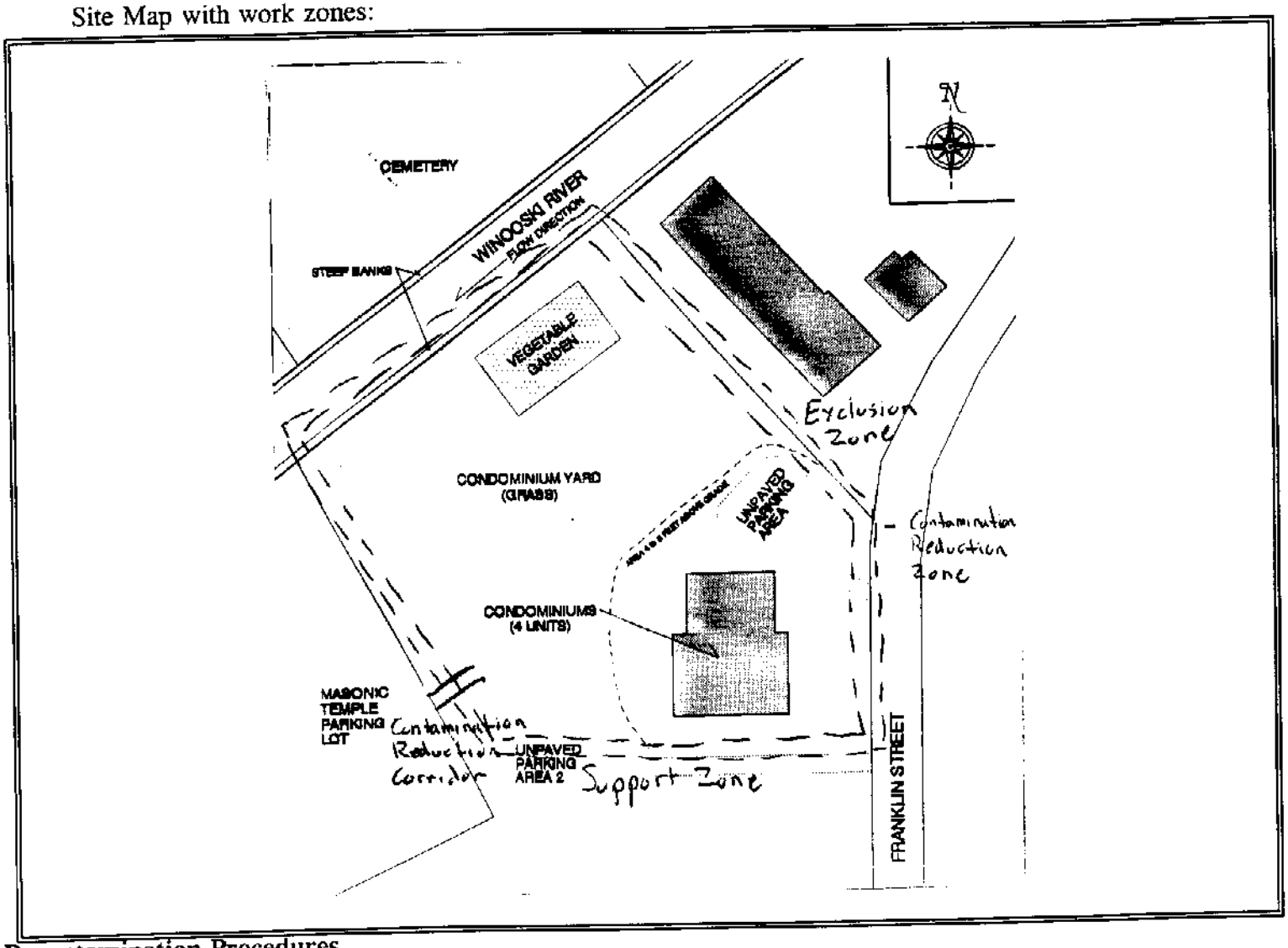
(X) Baseline initial physical examination with physician certification.
(X) Annual medical examination with physician certification.
( ) Site Specific medical monitoring protocol (Radiation, Pesticide, PCB, Metals).
( ) Asbestos Worker medical protocol.
( ) Exempt from medical surveillance: _____.
(X) Examination required in event of chemical exposure or trauma.

Physical Parameters	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant	Chemical Contaminant
	Lead (Pb)	Arsenic (As)	Semivolatile Organic Compounds (Naphthalene)	
Exposure Limits IDLH Level	___ ppm 0.05 mg/m³ PEL ___ ppm 0.05 mg/m³ TLV ___ ppm 700 mg/m³ IDLH	___ ppm 0.01 mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm 100 mg/m³ IDLH Carcinogen	10 ppm 50 mg/m³ PEL 10 ppm 50 mg/m³ TLV 500 ppm ___ mg/m³ IDLH	___ ppm ___ mg/m³ PEL ___ ppm ___ mg/m³ TLV ___ ppm ___ mg/m³ IDLH
Physical Form Solid Liquid Gas Color	X Solid ___ Liquid ___ Gas ____ Color	X Solid ___ Liquid ___ Gas ____ Color	X Solid ___ Liquid ___ Gas ____ Color	___ Solid ___ Liquid ___ Gas ____ Color
Odor	NA	NA	strong coal tar odor	
Flash Point Flammable Limits	NA Degrees F or C NA % UEL NA % LEL	NA Degrees F or C NA % UEL NA % LEL	79 Degrees C 5.9 % UEL 0.9 %LEL	____ Degrees F or C ___% UEL ___ LEL
Vapor Pressure Vapor Density	0 mm/Hg NA Air = 1	0 mm/Hg NA Air = 1	0.087 mm/Hg 4.4 Air = 1	_____ mm/Hg _____ Air = 1
Specific Gravity	11.34 Water = 1	5.73 Water = 1	1.162 Water = 1	_____ Water = 1
Solubility	insoluble	insoluble	insoluble	
Incompatible Materials	strong oxidizers, hydrogen peroxide, acids	strong oxidizers, bromine azide	strong oxidizers, chromic anhydride	
Route of Exposure	X Inh ____ Abs X Con X Ing	X Inh X Abs X Con X Ing	X Inh ____ Abs X Con ____ Ing	____ Inh ____ Abs ____ Con ____ Ing
Symptoms of Acute Exposure	Weak, lass, insom; facial pallor, paleye anor, low-wgt, mal-nut; constip, abdom. pain, colic; anemia; gingival lead line; tremor	ulceration of nasal septum, derm, GI disturbances, peri nevr, resp irrit, hyperpig of skin, carcinogen	renal shutdown, hemolytic effects, hematuria, jaundice, eye damage, CNS	
First Aid Treatment	Eye: irr immed Skin: soap flush prompt Breath: resp support Swallow: med. attention immed.	Eye: irr immed Skin: soap flush prompt Breath: resp support Swallow: med. attention immed.	Eye: irr immed Skin: soap flush prompt Breath: resp support Swallow: med. attention immed.	
Ion Potential	NA eV	NA eV	na eV	_____ eV
Instruments for Detection	___ PID w/___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ pH Other XRF Screening	___ PID w/___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ pH Other XRF Screening	X PID w/ 10.2 Probe X FID ___ CGI ___ RAD ___ Det Tube ___ pH Other Microtip	___ PID w/ ___ Probe ___ FID ___ CGI ___ RAD ___ Det Tube ___ pH Other _____

* *Refer to Appendix A of this Health and Safety Plan for definitions of abbreviations and codes used in this table.*

Site Control Measures

Site Map with work zones:



Decontamination Procedures

( ) Wet Decontamination - using: _____

(X) Dry Decontamination

Description of Site Specific Decontamination Plan:

Dry decontamination to be utilized. Equipment and supplies will be available on site should we decontamination be deemed necessary.

Procedures for dry decontamination:(1) Remove outer expendable PPE and discard into bags; (2) Remov respiratory protection; (3) Remove inner disposable gloves and discard into bags; and (4) Field wash necessary.

Adequacy of decontamination determined by: visual observation

Personal Protective Equipment

TASKS TO BE PERFORMED/AIR MONITORING REQUIRED	ANTICIPATED LEVEL OF PROTECTION	TYPE OF CHEMICAL PROTECTIVE COVERALL	INNER GLOVE OUTER GLOVE BOOT COVER	TYPE OF APR CARTRIDGE OR CANISTER
On-site reconnaissance, perimeter air monitoring, photodocumentation*	Level D	NA	Latex Boot Cover	NA
Surface soil sampling	Level C	Tyvek	Latex Inner Nitrile Outer Latex Boot Cover	GMC-H

* PPE Level during these activities will be upgraded to appropriate level depending on activities conducted imultaneously and/or conditions as observed or as detected through air monitoring.

Frequency and Types of Air Monitoring: ( ) Continuous (X) Routine - Perimeter (X) Periodic - As leemed necessary

DIRECT READING INSTRUMENTS	COMBUSTIBLE GAS/OXYGEN METER (1)	RADIATION SURVEY METER/PROBE (2)	PHOTOIONIZATION DETECTOR/PROBE (3) Microtip Probe:	FLAME IONIZATION DETECTOR (4)	CHEMICAL DETECTOR TUBE (5)
ID NUMBER	#2	#2	#1	—	—
CAL. DATE	4/7/95	4/7/95	4/7/95		
TAT MEMBER	Campbell	Campbell	Campbell		
ACTION LEVEL	≥ 20% LEL ≤ 19.5%, ≥23% O_2 - LEAVE	3X BACKGRND-CAUTION; 1 MR/HR-LEAVE	UNKNOWNS 0-5 UNITS: "C" 5-500: "B"	UNKNOWNS 0-5 UNITS: "C" 5-500: "B"	PEL/TLV COMPARE W/PF

Emergency Phone Numbers (all contacts must be notified)

Emergency Contact	Location	Phone Number	Notified
Hospital	Central Vermont Medical Center Fisher Road	802-229-9121 (911)	Yes
Ambulance	Montpelier Ambulance Service	802-229-4913	Yes
Police	Montpelier Police Department	802-223-3445	Yes
Fire Dept.	Montpelier Fire Department	802-229-4913	Yes

Chemical Trauma Capability? (X) Yes ( ) No If no, closest backup:_____ Phone: _____

Directions to hospital (attach map) - Route verified by: _____ Date: __/__/____
Exit site. Turn right (south) onto Franklin Street. Turn south onto Main Street. Turn right (south) onto Memorial Drive. Take I-89 south to exit 7. Follow road (no name) through two intersections. Hospital will be on left at second intersection (no name for roads), 3/4 mile from interstate.

Additional Emergency Phone Contacts

Contact	Phone Number
WESTON 24-hr. Hotline	610-524-1925 or 1926
WESTON Medical Emergency Service	800-229-3674 (EMR)
Chemtrec	800-424-9300
ATSDR/CDC	404-639-0615
National Pesticide Telecommunications	800-858-7378
Bureau of Explosives: Association of American Railroads	202-639-7378
Bureau of Alcohol, Tobacco and Firearms	800-800-3855 or 202-927-7777
National Response Center	800-424-8802
National Poison Control Center	800-682-9211
Region I TAT Office	617-229-6430
EPA Superfund RCRA Hotline	800-424-9346 (Week Day)
TSCA Hotline	202-260-2090 (Week Day)
NIOSH - Health Hazard Evaluation	513-841-4382/4252 (Week Day)
OSHA - Health Response Team	801-487-0521 (Week Day)
WESTON ZPMO	610-524-1160

HASP Prepared by: Tom D. Cinghill Jr. Date: 4/5/95
Pre-Response/Entry Approval by: _____ Date: 04/06/95
Verbal Approval/ Modification to Original HASP by: _____ Date: __/__/__

Final HASP to be submitted to RSO on the day following completion of activities.

hysical Description of Site and Response Activities

ize of Site: 1/2 acre Terrain Flat Weather Sunny
Distance to Nearest: Residence 20ft School 50yds Hospital 5miles
Public Building 1mile Other N/A
vacuation: ( ) Yes (X) No By Whom: _____
Nearest Waterway: North Branch of Winooski River Distance from Site: 20 feet

Condition	Observed	Potential	None	Comments/Observations*
Surface Water Contamination		X		Winooski River adjacent to site
Ground Water Contamination			X	
Drinking Water Contamination			X	
Air Release			X	
Soil Contamination	X			Pieces of coal and clinker observed on surface
Stressed Vegetation			X	
Dead Animal Species			X	

* Comment required for observed or potential.

Actions Taken On-Site:

Perimeter Monitoring: (X) Yes ( ) No
Site Entry by TAT: ( ) Yes (X) No

Tasks Conducted	Level of Protection/Specific PPE Used
Perimeter Air Monitoring	Level D
Soil Sampling - not conducted by TAT	Level D - OSC Gardner

Air Monitoring Summary Log

Date: 4/7/95

Data Collected by: Tom Campbell

Data to be summarized by a "Range of readings, i.e., - Low to High" and/or "Average" by location.

Station/Location	CGI/O_2 Meter	Radiation Meter	PID/Probe Probe: 10.2	FID/OVA	Detector Tube
Background - parking lot	20.8% O_2 0 LEL	5 uR/hr	0.9 units	—	—
Site Perimeter - garden plot	20.8% O_2 0 LEL	7-5 uR/hr	1.0 - 1.6 units	—	—

Summary/Comments: No readings significantly above background were detected. Micro R radiation meter used for radiation detection.

Hazardous Waste Site and Environmental Sampling Activities

Off Site:	( ) Yes	(✓) No
On Site:	(✓) Yes	( ) No

Description of types of samples and methods used to obtain samples: Soil samples
Samples collected by OSC Gardner.

Was laboratory notified of potential hazard level of samples? (✓) Yes ( ) No ( ) N/A

Note: The nature of the work assignment may require the use of the following procedures/programs which will be included as Attachments to this HASP as applicable: Emergency Response Plan, Confined Space Entry Procedures, Spill Containment Program.

Disclaimer: ***This Health and Safety Plan (HASP) was prepared for work to be conducted under the Technical Assistance Team (TAT) Contract 68-WO-0036 for Zone I. Use of this HASP by WESTON and its subcontractors is intended to fulfill the OSHA requirements found in 29 CFR 1910.120. Items not specifically covered in this HASP are included by reference to 29 CFR 1910 and 1926.***

The signatures below indicate that the individuals have read and understand the Health and Safety Plan.

PRINTED NAME	SIGNATURE	AFFILIATION	DATE
Tom Campbell	[signature]	Weston	4/7/95
Frank Gardner	[signature]	EPA	4/7/95

	Date
Final Submission of HASP by: [signature]	4/10/95
Post Response Review by:	
Post Response Approval by: [signature]	10 APR 95
TAT HSO Review by:	

COMMENTS/FOLLOWUP

Reminded TAT T. Campbell that both radiation meters must be calibrated and used [initials] 10 April 95

APPENDIX A

ABBREVIATIONS AND CODES FOR CHEMICAL HAZARDS TABLE

ABBREVIATIONS FOR SYMPTOMS OF ACUTE EXPOSURE

abdom - abdominal
album - albuminuria
anem - anemia
anes - anesthesia
anor - anorexia
anos - anosmia
ANS - automatic nervous system
apat - apathy
appre - apprehension
arrhy - arrhythmias
asphy - asphyxia
asth - asthma
biliru - bilirubinuria
blur - blurred
breath - breathing
bron - bronchitis
bronspas - bronchospasm
BUN - blood urea nitrogen
ca - cancer
cachexia - severe generalized weakness, emaciation
[CARC] - carcinogenic/carcinogen
card - cardiac
cere - cerebral
chol - cholinesterase
chor - chorea
cirr - cirrhosis
CNS - central nervous system
coll - collapse
conf - confusion
conj - conjunctivitis
constip - constipation
constric - constriction
convuls - convulsions
cor pulmonale - acute right heart strain or chronic right ventricular hypertrophy
corn - cornea
CVS - cardiovascular system
cyan - cyanosis
defat - defatting
deg - degeneration
dent - dental
depres - depressant/depression
derm - dermatitis
diarr - diarrhea
dil - dilated
dist - disturbance
dizz - dizziness
drow - drowsiness
dys - dysuria
dysp - dyspnea
dysart - dysarthria
ecz - eczema
emphy - emphysema
enl - enlargement
eosin - eosinophilia
epis - epistaxis
epit - epistaxis
equi - equilibrium
ery chol - erthrocyte cholinesterase
eryt - erythema
euph - euphoria
extrex - extremities
fasc - fasciculation
fib - fibrosis
fibrl - fibrillation
frost - frostbite
ftg - fatigue
fvr - fever
gasp - gasping
GI - gastrointestinal
gidd - giddiness
glau - glaucoma
glu - glucose
halu - hallucinations
head - headache
hemat - hematoma
hemato - hematoglobinuria
hemorr - hemorrhage
hep - hepatic
hyper - hyperemia
hypox - hypoxemia
ict - icterus
inco - incoordination
inflamm - inflammation
inj - injury
insom - insomnia
intox - intoxication
irrit - irritation
irrity - irritability
jaun - jaundice
kera - keratitis
kid - kidney
lab - labored
lac - lacrimation
lar - laryngeal
lass - lassitude
leucyt - leucocytosis
leuk - leukemia
leupen - leukopenia
li-head - lightheadedness
liv - liver
lo-ap - appetite
low-wgt - weight loss
lymp - lymphocytosis
mal - malaise
malnut - malnutrition
monocy - monocytosis
muc memb - mucous membrane
musc - muscle
myo - myotonia
narc - narcosis
nas - nose/nasal
nau - nausea
nec - necrosis
neph - nephritis
ner - nervousness
neur - neurologic
numb - numbness
opac - opacity
pal - pallor
palp - palpitations
para - paralysis
pares - paresthesia
paresis - incomplete loss of muscular power; weakness of a limb
parox - paroxysm
perf - perforation
peri neur - peripheral neuritis
periorb - periorbital
phar - pharyngeal
photo - photophobia
pig - pigmentation
plas - plasma
pleur - pleurisy
pneu - pneumonia
pneuitis - pneuitis
PNS - peripheral nervous system
polyneur - polyneuropathy
pros - prostration
prot - proteinuria
pyspec - psychialopecia
pulm - pulmonary
pulsus altenans - a pulse pattern in which beats occur at regular intervals, but with alternating weak and strong beats
pup - pupil
RBC - red blood cell
resp - respiratory
resp ar - respiratory arrest
rester - restrostrenal
rhin - rhinorrhea
salv - salivation
scotoma - an area of absent or depressed vision in the visual field
sens - sensitization
sez - seizure
sleep - sleepiness
sneez - sneezing
som - somnolence
spas - spasm
strabismus - abnormality of the eyes visual axes do not meet at the desired point
subs - substernal
sweat - sweating
swell - swelling
tacar - tachycardia
temp - temperature
tend - tenderness
trachbronc - tracheobronchitis
vasconst - vasoconstriction
venfib - ventricular fibrillation
verti - vertigo
vesic - vesiculation
vis dist - visual disturbance
vomit - vomiting
weak - weakness
wheez - wheezing

CODES FOR FIRST AID TREATMENT

EYE

Irr immed — If chemical comes in contact with the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids, get medical attention immediately. Contact lenses should not be worn when working with this chemical.

Irr immed (15 min) — If this chemical comes in contact with the eyes, immediately wash the eyes with large amounts of water and continue flushing for 15 minutes, occasionally lifting the lower and upper lids, get medical attention immediately. Contact lenses should not be worn when working with this chemical.

r promptly — If this chemical comes in contact with the eyes, promptly wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention if any discomfort continues. Contact lenses should not be worn when working with this chemical.

Medical attention — Self-explanatory

SKIN

Dust off solid; water flush — If this solid chemical comes in contact with the skin, dust it off immediately and then flush the contaminated skin with water. If this chemical, or liquids containing this chemical, penetrate through the clothing, promptly remove the clothing and flush the skin with water. Get medical attention immediately.

Medical attention for frostbite — If this chemical comes in contact with the skin or mouth, stop the exposure immediately. If frostbite has occurred, get medical attention.

Molten: flush imed; sol/liq wash — If this molten chemical comes in contact with the skin, immediately flush the skin with large amounts of water. Get medical attention immediately. If this chemical, or liquids containing this chemical, contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical, or liquids containing this chemical, penetrates through the clothing, immediately remove the clothing and wash the skin with soap and water. If irritation persists after washing, get medical attention.

Petro product rinse — If this chemical or strong concentrations of this chemical's vapors comes in contact with the skin, immediately rinse the contaminated skin with kerosene or similar petroleum products, if readily available, then wash the skin with soap and water. If this liquid chemical or strong concentrations of this chemical's vapors penetrate through the clothing, immediately remove the clothing and rinse the skin with kerosene or similar petroleum products, if readily available, then wash the skin with soap and water. Get medical attention immediately.

Soap flush imed — If this chemical comes in contact with the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates through the clothing, and flush skin with water. If irritation persists after washing, get medical attention.

Soap flush promptly — If this chemical comes in contact with the skin, promptly flush the contaminated skin with soap and water. If this chemical penetrates through clothing, promptly remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention.

Soap promptly/ flush immed — If this solid chemical or liquids containing this chemical, comes in contact with the skin, promptly wash the contaminated skin with soap and water. If irritation persists after washing, get medical attention. If this chemical contacts the skin or non-impervious clothing, immediately flush the affected area with large amounts of water to remove heat. Get medical attention immediately.

Soap wash — If this chemical comes in contact with the skin, wash the contaminated skin with soap and water.

Soap wash immed — If this chemical comes in contact with the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates through the clothing, immediately remove the clothing, wash the skin with soap and water, get medical attention promptly.

Soap wash promptly — If this chemical comes in contact with the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates through the clothing, promptly remove the clothing and flush skin with water promptly. If irritation persists after wash-ing, get medical attention.

Water wash immed — If this chemical comes in contact with the skin, promptly wash the contaminated skin with water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with water. If irritation persists after washing, get medical attention.

BREATH

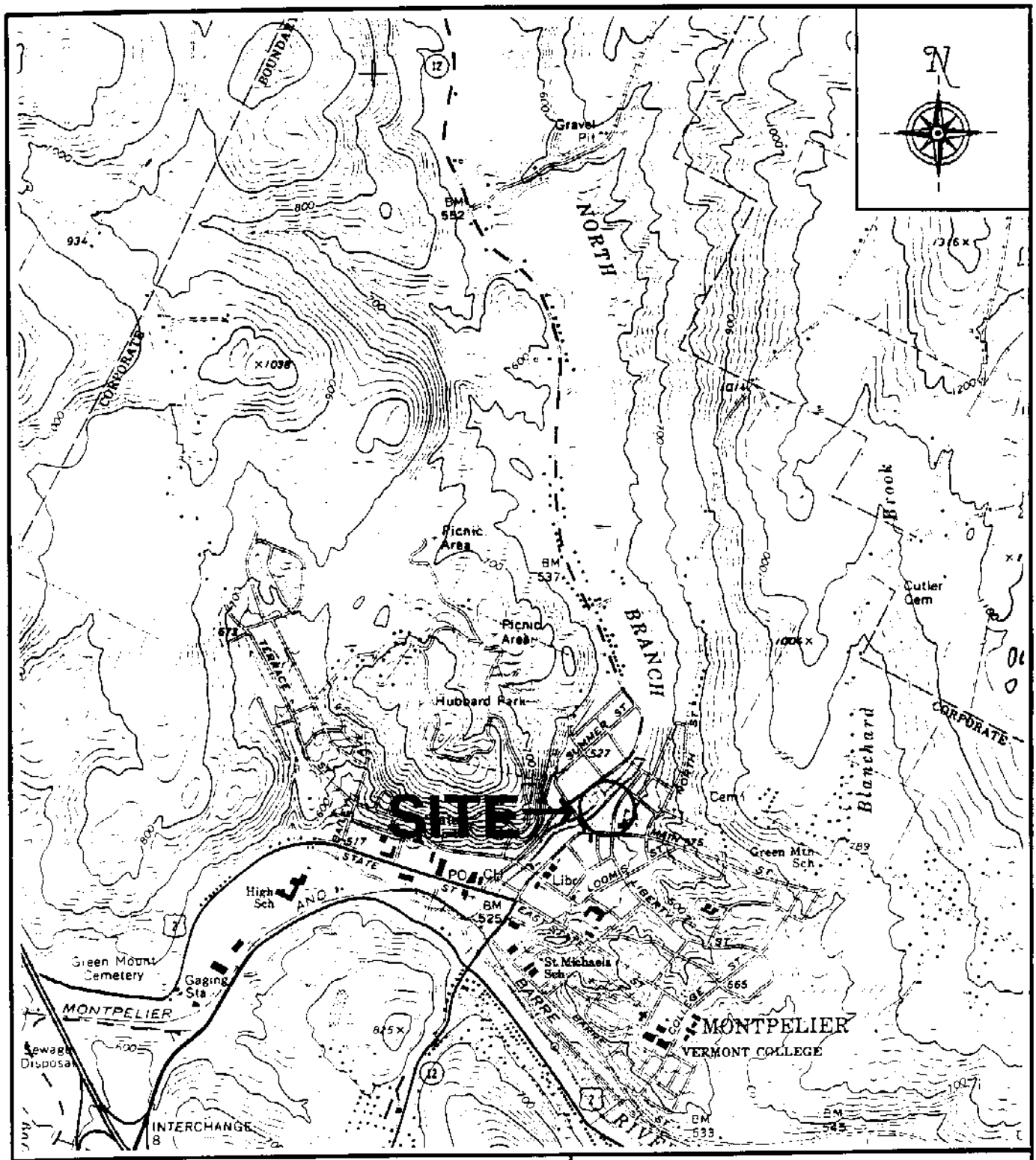
Art resp — If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

Fresh air — If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary.

Fresh air; 100% O_2 — If a person breathes in large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. When breathing is difficult, properly trained personnel may assist the affected person by administering 100% oxygen. Keep the affected person warm and at rest. Get medical attention as soon as possible.

SWALLOW

Medical imed — If this chemical has been swallowed get medical attention immediately.



SCALE 1:24 000

FIGURE 1
SITE LOCATION MAP
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT

SOURCE: UNITED STATES GEOLOGICAL SURVEY
MONTPELIER, VERMONT QUADRANGLE,
7.5 MINUTE SERIES (TOPOGRAPHIC), 1968.

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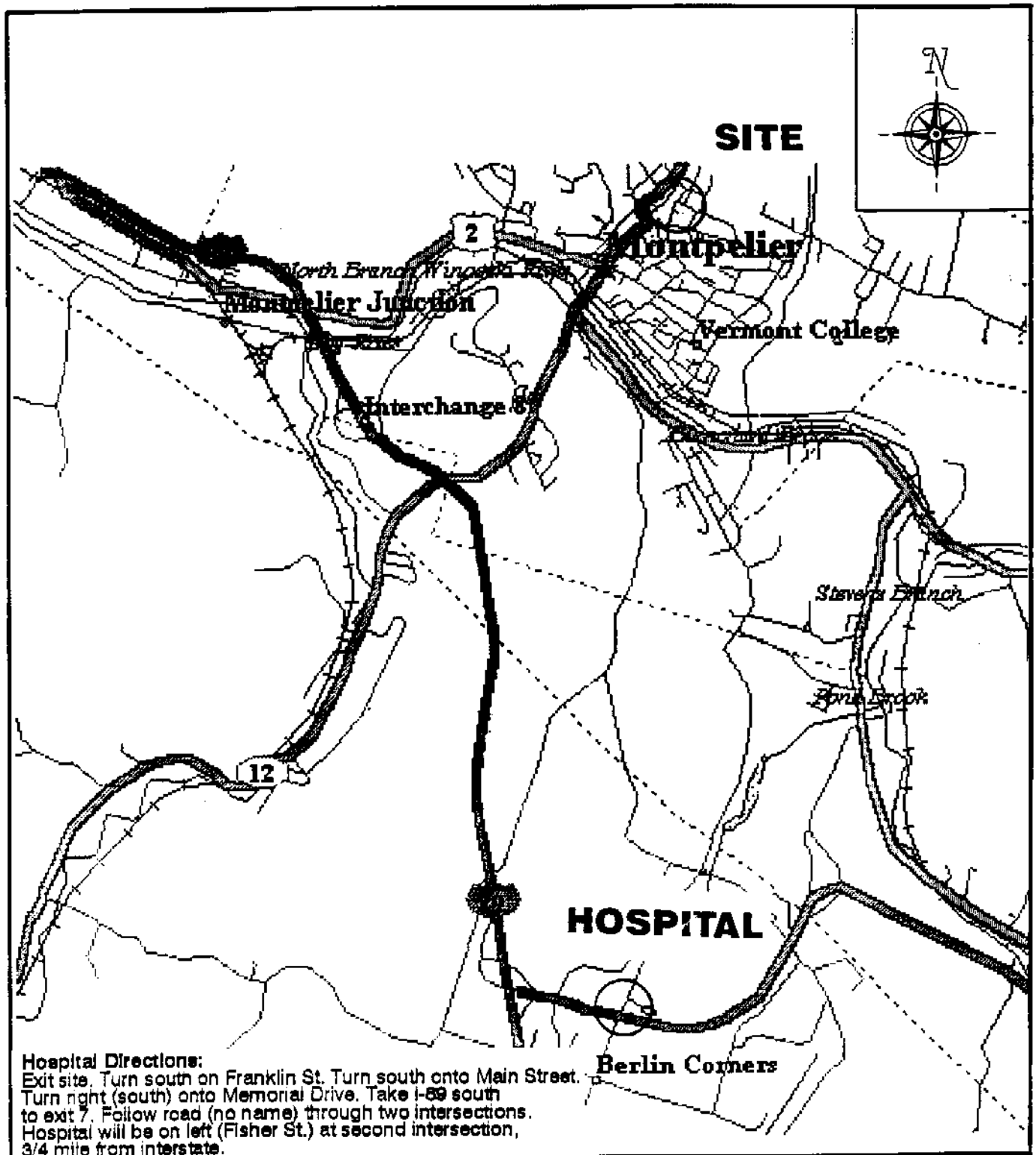
APPROVED BY	DATE	TDD #
	04/95	01-9503-29



Hospital Directions:
Exit site. Turn south on Franklin St. Turn south onto Main Street. Turn right (south) onto Memorial Drive. Take I-89 south to exit 7. Follow road (no name) through two intersections. Hospital will be on left (Fisher St.) at second intersection, 3/4 mile from interstate.

HOSPITAL LOCATION MAP
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT

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	04/95	01-9503-29

Appendix D

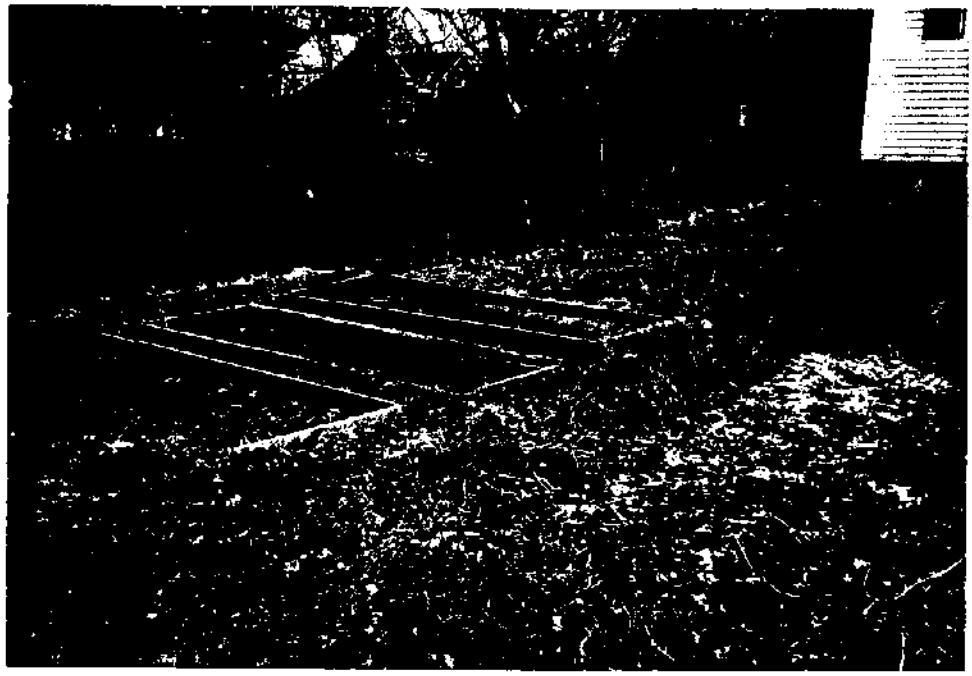
Photodocumentation Log

PHOTOGRAPHY LOG SHEET
4 FRANKLIN STREET • MONTPELIER, VERMONT

SCENE: SAMPLE STATION 1 - GARDEN PLOT
FRAME NUMBER: 1 **DATE:** 04/07/95 **TIME:** 1032 **SKY CONDITION:** CLOUDY
PHOTO BY: T. CAMPBELL **WITNESS(ES):** F. GARDNER
CAMERA: OLYMPUS **SETTING:** AUTO **FILM TYPE:** 35mm **FILM ROLL:** TU19629

SCENE: SAMPLE STATIONS 2 AND 3 - GARDEN PLOTS AND BANK ADJACENT TO RIVER
FRAME NUMBER: 2 **DATE:** 04/07/95 **TIME:** 1036 **SKY CONDITION:** CLOUDY
PHOTO BY: T. CAMPBELL **WITNESS(ES):** F. GARDNER
CAMERA: OLYMPUS **SETTING:** AUTO **FILM TYPE:** 35mm **FILM ROLL:** TU19629

PHOTOGRAPHY LOG SHEET
4 FRANKLIN STREET • MONTPELIER, VERMONT



SCENE: GARDEN PLOTS ADJACENT TO THE NORTH BRANCH OF THE WINOOSKI RIVER
FRAME NUMBER: 3 **DATE:** 04/07/95 **TIME:** 1038 **SKY CONDITION:** CLOUDY
PHOTO BY: T. CAMPBELL **WITNESS(ES):** F. GARDNER
CAMERA: OLYMPUS **SETTING:** AUTO **FILM TYPE:** 35mm **FILM ROLL:** TU19629

WESTON
MANAGERS DESIGNERS/CONSULTANTS

99 South Bedford St
Suite 5
Burlington, MA 01803
Phone: 617-229-6430
Fax: 617-272-3619

Negatives

Appendix E

Sampling QA/QC Plan

4 FRANKLIN STREET SITE
SAMPLING QUALITY ASSURANCE/ QUALITY CONTROL PLAN
MONTPELIER, VERMONT
7 APRIL 1995

Prepared For:

U.S. Environmental Protection Agency
Region I
60 Westview Street
Lexington, MA 02173

CONTRACT NO. 68-W0-0036

TDD NO. 01-9503-29

PCS NO. 1271

DC NO. 02591

Prepared By:

ROY F. WESTON, INC.
Technical Assistance Team
Region I

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1.0 BACKGROUND

The 4 Franklin Street site is located in Montpelier, Washington County, Vermont (Figure 1) and consists of approximately 0.75 acres. The site is bordered to the northwest by the Winooski River, to the northeast by a residential building, to the southwest by the Masonic Temple building and parking lot, and to the east by Franklin Street (Figure 2). The 4 Franklin Street site is located in an area zoned as high density residential.

The following site area description and summary of previous investigation activities is from the Vermont Department of Environmental Conservation report entitled, *4 Franklin Street, Montpelier, Vermont, Potential Hazardous Waste Site, Site Assessment*, dated July 1992.

> *The Montpelier Main Street Middle School is located approximately 250 feet from the site. A four unit condominium is located on the property. The site is generally vegetated with grass and a common vegetable garden used by the residents. There are two unpaved parking lots. The majority of residents within a four mile radius of the site rely on the Montpelier Water System for water. The source for the system is the Berlin Pond. The closest private drinking water supply well is a bedrock well approximately 0.5 miles northeast of the site. Approximately 1,613 individuals rely on private water supplies. The closest public supply is a bedrock well approximately 0.6 miles east of the site. Approximately 1,207 individuals rely on public-community groundwater supply systems. No endangered or threatened species are located within the four mile radius of the site.*
>
> *In an effort to determine if contamination was present at the site, deep and shallow soil/ash samples, three sediment and surface water, and two groundwater samples were collected* (by VT DEC in October 1989). *Samples were analyzed for VOC* (volatile organic compounds), *SVOC* (semivolatile organic compounds), *and nine priority pollutant metals.*
>
> *Three metals (zinc, nickel, lead) were detected in the groundwater samples. The presence of these metals may be due in part to the galvanized steel used for the well points. The only metal identified above detection limits in the surface water samples was copper at the upstream location (SW-3) with a concentration of 29 ug/l* (micrograms per liter). *VOCs were not detected in either groundwater sample.*
>
> *The only metals identified in soil or sediment samples that appear to have elevated concentrations are arsenic at soil samples SB-2S, SB-3S, and SB-4S; lead in soil samples SB-2D, SB-4D, and SB-5D; and copper in soil sample SB-3D. Several VOCs were identified in soil and sediment samples.*

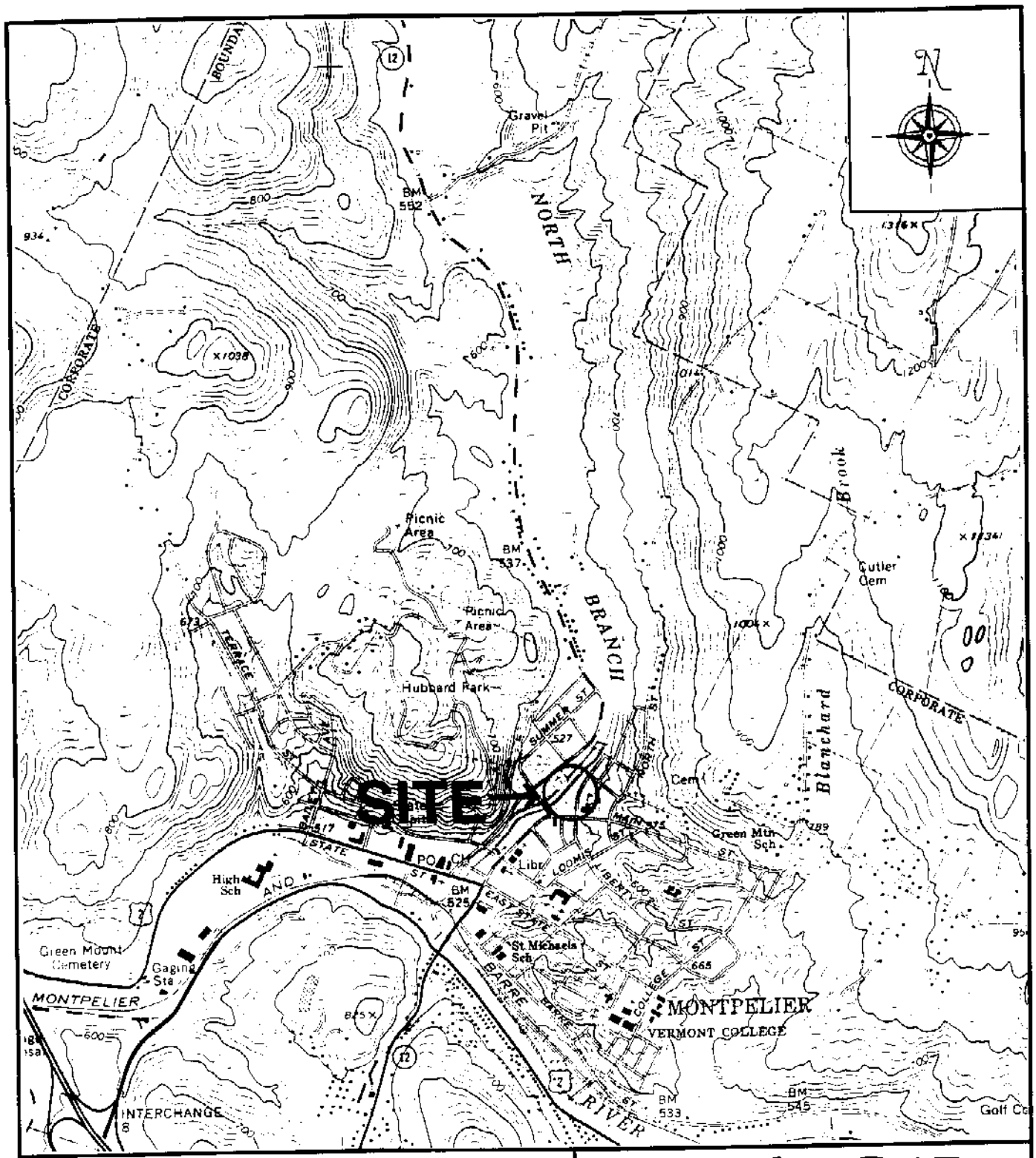

FIGURE 1

SCALE 1:24 000

SITE LOCATION MAP
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT

SOURCE: UNITED STATES GEOLOGICAL SURVEY
MONTPELIER, VERMONT QUADRANGLE,
7.5 MINUTE SERIES (TOPOGRAPHIC), 1968.

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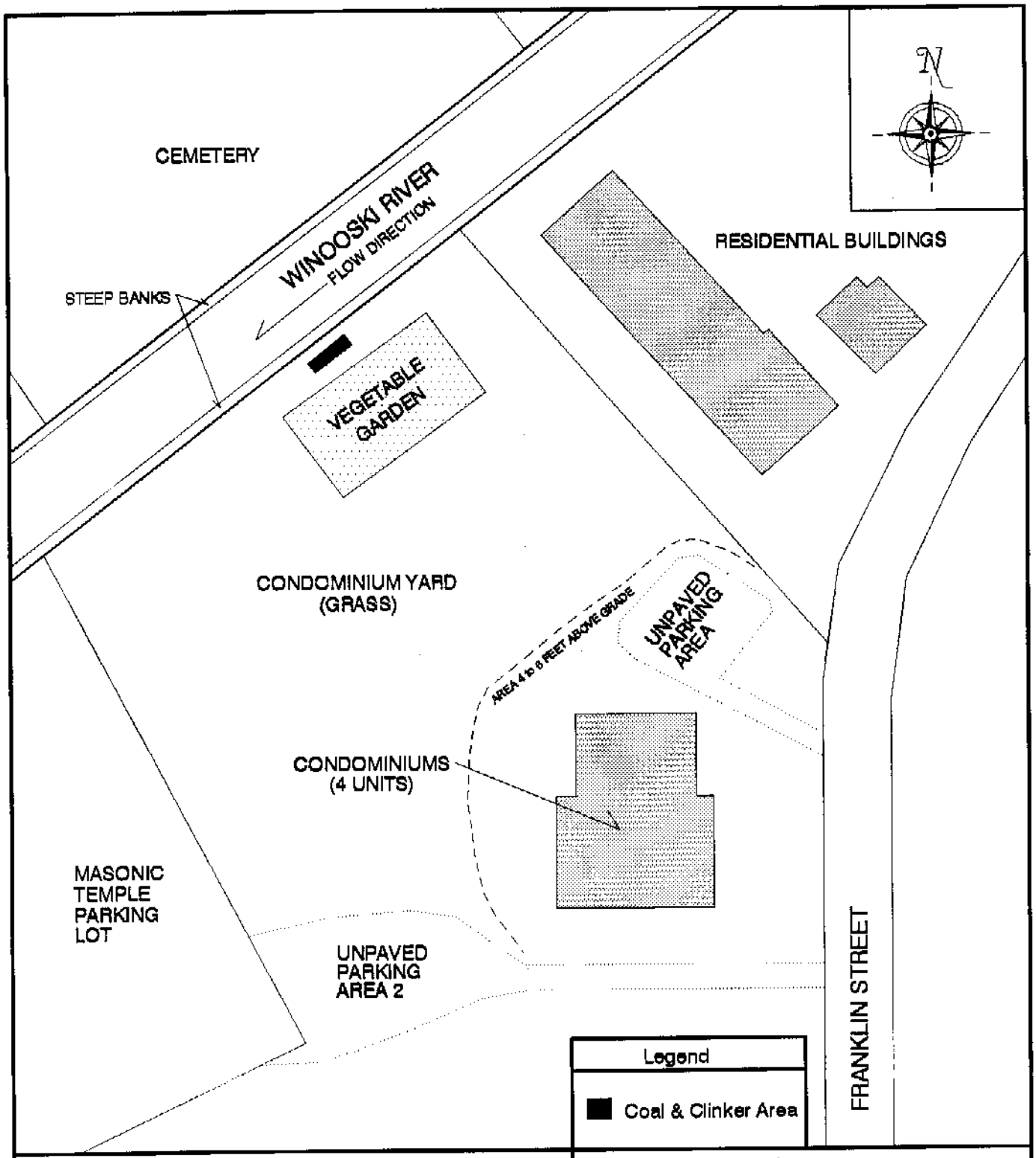

FIGURE 2

NOT TO SCALE

SITE DIAGRAM
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT

SOURCE: Adapted from Figure 2 - SI Sample Locations (diagram) in Vermont Department of Environmental Conservation report entitled, "Potential Hazardous Waste Site, Site Assessment", July 1992.

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SJM	5/95	01-9503-29

The concentration of total SVOCs in the shallow soil and ash samples ranged from 1,131 ug/kg (micrograms per kilogram) *(SB-1S) to 210,433 ug/kg (SB-2S). Concentrations in the deep soil samples ranged from 222 ug/kg (SB-1D) to 67, 426 ug/kg (SB-2D). SVOCs were detected in all three sediment samples. Total SVOCs concentrations were similar at the upstream (SD-3) and downstream (SD-1) sample locations. The levels detected were 8,176 ug/kg and 8,802 ug/kg respectively. The levels detected at the midsite location (SD-2) was 1,800 ug/kg. The elevated levels at the upstream location may be due to the adjoining property owners disposal of furnace ash over the riverbank.*

Due to the number of on-site residents and the presence of SVOCs in on-site soils and sediment of the North Branch of the Winooski River, the site is recommended for further investigation under CERCLA...

2.0 OBJECTIVES

The objective of this sampling survey is to obtain sufficient analytical data from a representative number of samples which could be used to determine whether further actions at the site by the EPA, Region I, Emergency Planning and Response Branch (EPRB) are necessary.

3.0 DELIVERABLES

In addition to this sampling QA/QC plan, a preliminary assessment/site investigation (PA/SI) report documenting project activities at the site will be generated by Roy F. Weston, Inc., Technical Assistance Team (TAT). Any modifications to the practices described in this sampling QA/QC plan will be documented in Attachment I to this report when the sampling is completed and the report is finalized. In addition, chain-of-custody documentation will be included in Attachment II and the sample locations will be illustrated in Figure 3.

4.0 QUALITY ASSURANCE LEVELS

The quality assurance (QA) level for the on-site screening/air monitoring activities will be QA1, as detailed in Section 7.1 of this document. The QA levels are described in Section 2.7 of OSWER Directive 9360.4-01 (April 1990-Interim Final), *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures, EPA/540/G-90/004* (OSWER). QA1 activities include the use of the following instrumentation/test equipment:

- Photovac MicroTip, Model HL-2000 by Photovac International.
- Combustible Gas Indicator/Oxygen Meter Model 260 or MicroGard by MSA.

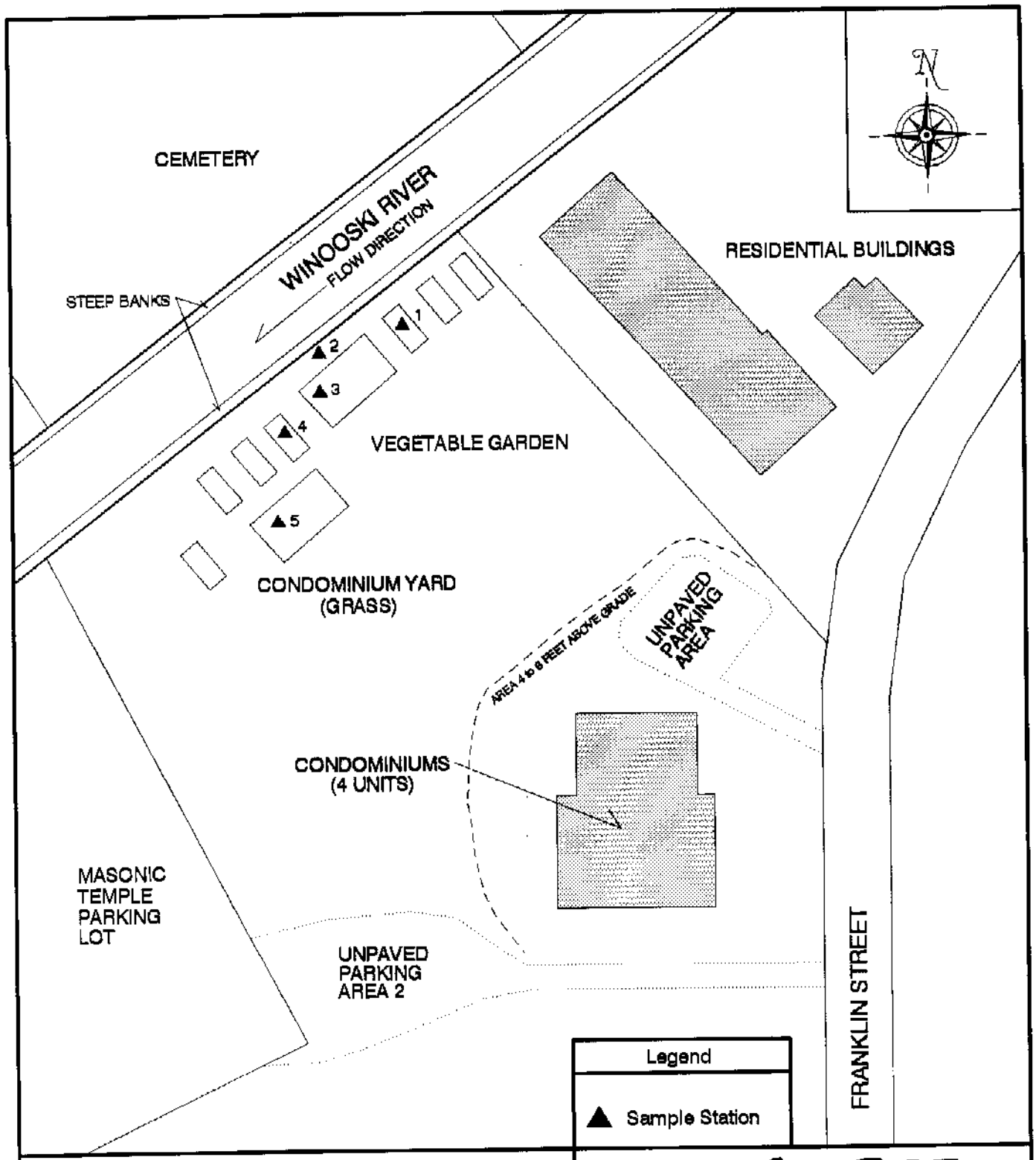

FIGURE 3

NOT TO SCALE

SAMPLE LOCATION DIAGRAM
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT

SOURCE: Adapted from Figure 2 - SI Sample Locations (diagram) in Vermont Department of Environmental Conservation report entitled, "Potential Hazardous Waste Site, Site Assessment", July 1992.

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		01-9503-29

- Radiation Meter, Model 490 by Victoreen or Model 3 by Ludlum.
- Radiation Meter, Micro R Meter, Model 19 by Ludlum.

The samples collected for laboratory analysis will be analyzed at the EPA New England Regional Laboratory (NERL). Samples are identified using an internal classification designation (Screening, Quick Turnaround, or EPA Standard Method) which refers to the method of analysis being performed at NERL. These methods are generally used to analyze for high, medium, and low levels of anticipated contamination, respectively. This classification system was instituted by EPRB and NERL on June 25, 1992. The relative sampling protocols used to develop this sampling plan are described in a Roy F. Weston, Inc. draft inter-office memorandum, *Technical Assistance Team Sampling Protocols*, dated March 1992.

See Section 7.0 for quality assurance requirements.

5.0 APPROACH AND SAMPLING METHODOLOGIES

The sampling survey will be conducted on 7 April 1995 as part of a PA/SI. Field screening, air monitoring, and/or visual observation will be used to determine the location and number of samples to be collected. Wherever practical, samples will be collected from the least contaminated locations first. The samples will be containerized, preserved, and analyzed in accordance with Table 1. EPA chain-of-custody procedures will be utilized for all sampling activities. Samples will be disposed of by the laboratory performing the analyses. All contaminated sampling materials will be disposed of by NERL.

5.1 Soil Sampling

Up to five surface soil samples will be collected for extractable base/neutrals and acids (BNAs) and up to five surface soil samples will be collected for metals analyses. The number of sample locations will be determined by the EPA On-Scene Coordinator (OSC). The analyses will be performed by NERL.

The soil samples will be collected from a 0- to 3-inch depth, over a one square foot area. Prior to any sample collection, any extraneous material considered to be not relevant for sample analysis shall be removed from the sampling areas. Dedicated sampling scoops will be used to collect samples for BNA and metals analyses, thereby preventing the possibility of cross-contamination between sample stations. The 4-ounce glass jars for collection of samples for metals analyses will be filled half-full and the 40-ml vials for collection of samples for BNA analyses will be filled and the samples manually homogenized with the scoops used to collect the samples in order to increase analytical reproducibility.

TABLE 1

SAMPLING SUMMARY, ANALYTICAL METHODS, AND QA/QC SAMPLES
4 FRANKLIN STREET SITE
MONTPELIER, VERMONT
7 APRIL 1995

MATRIX	SUBTOTAL #SAMPLES	ANALYTICAL PARAMETER	VOLUME	CONTAINER	PRESERVATIVE	METHOD	HOLDING TIME	QA/QC SAMPLES (type, volume, container)	TOTAL # SAMPLES
SOIL	5	Metals	(1/2) 4 oz	Glass Jar No Metal Cover	Ice	EPA Screening (XRF)	6 Months	N/A	5
SOIL	5	BNA	(1) 40 ml	Glass Vial	Ice	EPA Quick Turnaround (GC-MS)	14 Days to Extract	N/A	5

NOTES:

N/A = Not Applicable

BNA = Extractable Base-Neutral and Acids

5.2 Classification of Field Samples for Shipment

The samples collected at the site will be transported according to either Department of Transportation (DOT) Hazardous Materials Regulations or International Air Transport Association (IATA) Dangerous Goods Regulations. Samples will be transported in a manner that will maintain their integrity, as well as protect against detrimental effects from sample breakage or leakage. The Roy F. Weston, Inc. Guidelines for Classifying Field Sample Shipments (Revision 4.0, 16 June 1994) will be followed whenever samples are shipped.

Samples collected will be classified as either "environmental" or "hazardous materials" samples. Environmental samples are generally those collected from streams, ponds, lakes, wells, and off-site soils which are not expected to be contaminated with hazardous materials. Hazardous materials samples are collected from on-site soils or water, and materials from drums, bulk storage tanks, obviously contaminated ponds, impoundments, lagoons, pools and leachates from hazardous waste sites.

Once samples are classified as environmental or hazardous materials, they will be screened, packaged, and shipped accordingly.

Environmental samples will be packaged and shipped according to the following procedures:

Environmental Samples

- Place properly-identified sample container in a sealed polyethylene bag.
- Place sample in a DOT-approved fiberboard container or picnic cooler lined with a large polyethylene bag.
- Pack container with enough noncombustible, absorbent, cushion material (e.g. vermiculite) to minimize the possibility of containers breaking, and to absorb any material which may leak from the sample jars.
- If there are multiple samples, make certain that there is sufficient cushioning material between the sample containers (each in its individual polyethylene bag) to prevent breakage due to dropping or severe shock.
- Seal large bag, add more absorbent if needed.
- Seal outside container with duct tape or strapping tape. Any cooler drain outlets should be taped shut.

The outside of the picnic cooler will be marked "Environmental Samples" and the appropriate sides of the container will be marked "This End Up" or with arrows accordingly. Place a proper address label on the outside of the package, no other labeling or shipping papers are required.

Hazardous Material Samples

Samples determined to be unknown hazardous materials will be classified through a process of professional judgement and elimination. Site background information, air monitoring equipment, and test strips will be used to classify samples of unknown materials to determine the proper hazard classification to be used during shipment

Background ambient air and radiation readings will be taken for comparison purposes using the combustible gas indicator/oxygen meter (CGI), photoionization detector (PID) or flame ionization detector (FID), and Micro R radiation meter.

The samples will be screened for ionizing radiation by passing the Micro R meter over the sample material and noting the reading. This reading is then compared with that recorded during the ambient air background survey. Flammability will be determined by screening the headspace of the drum, container, or sample jar with the CGI and PID or FID, to determine if headspace readings are greater than background levels. Samples will also be checked for corrosivity and the presence of peroxides by testing the sample with pH and peroxide test strips.

Once radioactivity, flammability, corrosivity, and peroxides have been tested for, and professional judgement has been used to eliminate other hazard classification categories, the unknown samples will be classified and shipped as specified in the Roy F. Weston, Inc, Guidelines for Field Sample Shipments.

6.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

U.S. EPA EPRB:

Frank Gardner	On-Scene Coordinator

TAT Members:

Thomas Campbell	Sample collection and documentation and Quality Control Monitor

The Quality Control Monitor will record quality assurance checks, any problems and corrective actions taken associated with the sampling and sampling plan. The Quality

Control Monitor will also be responsible for completeness and accuracy of the chain-of-custody record.

7.0 QUALITY ASSURANCE REQUIREMENTS

Per OSWER Section 2.7, the following QA requirements apply.

7.1 Screening Quality Assurance

The on-site screening/air monitoring activities will employ the following OSWER QA1 level requirements:

- Sample documentation.
- Instrument calibration/performance check.
- Determination of detection limit, if appropriate.

7.2 Sampling Quality Assurance

Sampling QA includes collecting one or more of the following quality control samples:

- Field duplicates if requested by the OSC.

- Matrix spike and matrix spike duplicate (MS/MSD): extra volume may be required for a matrix spike sample and a matrix spike duplicate sample at the rate of one MS/MSD pair per 20 samples collected of each matrix (i.e., soil, water, sludge). NOTE: This quality control sample will be performed for soil samples collected for BNA analyses, however, no extra volume is necessary.

7.3 Laboratory Quality Assurance

The samples designated for Quick Turnaround analyses are generally those samples anticipated to contain mid-levels of the pollutant analytes of interest. These samples will be analyzed to determine definitive identification and quantitation of contaminants. Protocols for Quick Turnaround analysis include multiple standards, a matrix spike, and a laboratory blank.

The samples designated for Screening are generally those samples anticipated to contain high levels of the pollutant analytes of interest and require analytical results within a few days. These samples will be analyzed to determine semi-quantitation of high levels of target specific compounds, which will indicate their presence or absence above a threshold value. Identification of target specific compounds is based on a known standard. Protocols for Screening analysis include a one point standard and a laboratory blank.

8.0 DATA VALIDATION

A data quality review of the sample analyses will be conducted by NERL personnel according to *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures,* OSWER Directive 9360.4-01, April 1990 - Interim Final, EPA/540/G-90/004 or by NERL intralaboratory data review procedures.

9.0 REFERENCES

Vermont Department of Environmental Conservation. July 1992. *4 Franklin Street, Montpelier, Vermont, Potential Hazardous Waste Site, Site Assessment.*

Roy F. Weston, Inc. March 1992. *Technical Assistance Team Sampling Protocols* (Draft). Technical Assistance Team, Burlington, MA.

Roy F. Weston, Inc. May 1993. *Standard Operating Procedures for Preparing Site Sampling Plans for Site Investigations in Region I.* Technical Assistance Team, Burlington, MA.

U.S. Environmental Protection Agency. April 1990. *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (Interim Final). Office of Emergency and Remedial Response, Washington, D.C. EPA/540/G-901004. OSWER Directive 9360.4-01.

U.S. Environmental Protection Agency. January 1991. *Compendium of ERT Soil Sampling and Surface Geophysics Procedures* (Interim Final). OSWER Directive 9360.4-02.

U.S. Environmental Protection Agency. January 1991. *Compendium of ERT Surface Water and Sediment Sampling Procedures* (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9360.4-03.

U.S. Environmental Protection Agency. January 1991. *Compendium of ERT Waste Sampling Procedures* (Interim Final). OSWER Directive 9360.4-07.

U.S. Environmental Protection Agency. November 1991. *Removal Program Representative Sampling Guidance, Volume 1: Soil* (Interim Final). OSWER Directive 9360.4-10.

U.S. Geological Survey, 1968. Montpelier, Vermont Quadrangle. 7.5 minute series (Topographical).

ATTACHMENT I

MODIFICATIONS

No modifications were made to the QA/QC Sampling Plan during sampling activities.

ATTACHMENT II

CHAIN-OF-CUSTODY DOCUMENTATION

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

PM: 45125

CHAIN OF CUSTODY RECORD

...ION
JFK Federal Building, Rm. 2203
Boston, Massachusetts 02203

PROJ. NO. 1271

PROJECT NAME: 4 Franklin Street Montpelier, VT

SAMPLERS: (Signature) [signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	BNAs	metals (XRF)					REMARKS
001	4/7/95	1030		X	Surface soil (0"-3")	2	X	X					04740 soil HNu = 0 units
002		1040		X		2	X	X					04741
003		1045		X		2	X	X					04742
004		1050		X		2	X	X					04743
005		1100		X		2	X	X					04744

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	4/7/95 1500				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Kathy Jarek	4/7/95 3:05pm	EPA project mgr = Frank Gardner (860-4309)	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

1-0895

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT 4 Franklin St STATE Montpelier, VT

COLLECTOR F. Gardner

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG, PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP 30F TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	☐	NH3	☐	COD	☐
BOD	☐	NO2+3	☐	PCB	☐
TSS	☐	TKN	☐	X-Ray	☐
Turb	☐	T-P	☐	Other	BNAs Extractable Base-Neutral and Acids
Organics	☐	O&G	☐		
VOA's	☐				

METALS — Total — Dissolved

Cd	☐	Fe	☐	Pb	☐
Cu	☐	Hg	☐	Sn	☐
Cr (T)	☐	Mn	☐	Zn	☐
*Cr (+6)	☐	Ni	☐	Other	XRF

*Unpreserved Sample

EPA R-1 7500-30

LAB CODE Nº 04742

PROJECT # 1271

STATION # 003

Y Y M M D D

DATE 950407

COLLECTION TIME 1045

SAMPLE TEMP °C

PROBE-D.O. (mg/l)

pH - S.U.

CONDUCTIVITY (micromhos/cm)

SALINITY (0/00)

TOTAL DEPTH (ft)

SAMPLING DEPTH (ft)

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT 4 Franklin St STATE Montpelier, VT

COLLECTOR F. Gardner

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG, PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP 30°F TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	☐	NH3	☐	COD	☐
BOD	☐	NO2+3	☐	PCB	☐
TSS	☐	TKN	☐	X-Ray	☐
Turb	☐	T-P	☐	Other	BNAs Extractable Base-Neutral and Acids
Organics	☐	O&G	☐		
VOA's	☐				

METALS — Tota — Dissolved

Cd	☐	Fe	☐	Pb	☐
Cu	☐	Hg	☐	Sn	☐
Cr (T)	☐	Mn	☐	Zn	☐
*Cr (+6)	☐	Ni	☐	Other	XRF

*Unpreserved Sample

EPA R-1 7500-30

LAB CODE Nº 04743

PROJECT # 1271

STATION # 004

Y Y M M D D

DATE 950407

COLLECTION TIME 1050

SAMPLE TEMP °C

PROBE-D.O. (mg/l)

pH - S.U.

CONDUCTIVITY (micromhos/cm)

SALINITY (0/00)

TOTAL DEPTH (ft)

SAMPLING DEPTH (ft)

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT 4 Franklin St. STATE Montpelier, VT

COLLECTOR F. Gardner

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP 30F TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	☐	NH3	☐	COD	☐
BOD	☐	NO2 + 3	☐	PCB	☐
TSS	☐	TKN	☐	X-Ray	☐
Turb	☐	T-P	☐	Other	Base, Neutral/Acids Extractable Base-Neutral and Acid BNA
Organics	☐	O&G	☐		
VOA's	☐				

METALS — Total — Dissolved

Cd	☐	Fe	☐	Pb	☐
Cu	☐	Hg	☐	Sn	☐
Cr (T)	☐	Mn	☐	Zn	☐
Cr (+6)	☐	Ni	☐	Other	XRF

EPA R-1 7500-30

*Unpreserved Sample

LAB CODE Nº 04740

PROJECT # 1271

STATION # 001

Y Y M M D D

DATE 950407

COLLECTION TIME 1030

SAMPLE TEMP °C

PROBE-D.O. (mg/l)

pH - S.U.

CONDUCTIVITY (micromhos/cm)

SALINITY (0/00)

TOTAL DEPTH (ft)

SAMPLING DEPTH (ft)

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT 4 Franklin St STATE Montpelier, VT

COLLECTOR F. Gardner

FIELD OBSERVATIONS: CLEAR, OVERCAST, RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP °C 30°F TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	☐	NH3	☐	COD	☐
BOD	☐	NO2 + 3	☐	PCB	☐
TSS	☐	TKN	☐	X-Ray	☐
Turb	☐	T-P	☐	Other	BNAs Extractable Base-Neutral and Acids
Organics	☐	O&G	☐		
VOA's	☐				

METALS — Total — Dissolved

Cd	☐	Fe	☐	Pb	☐
Cu	☐	Hg	☐	Sn	☐
Cr (T)	☐	Mn	☐	Zn	☐
Cr (+6)	☐	Ni	☐	Other	XRF

EPA R-1 7500-30

*Unpreserved Sample

LAB CODE Nº 04741

PROJECT # 1271

STATION # 002

Y Y M M D D

DATE 950407

COLLECTION TIME 1040

SAMPLE TEMP °C

PROBE-D.O. (mg/l)

pH - S.U.

CONDUCTIVITY (micromhos/cm)

SALINITY (0/00)

TOTAL DEPTH (ft)

SAMPLING DEPTH (ft)

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION I

PROJECT 4 Franklin St STATE Montpelier, VT

COLLECTOR F. Gardner

FIELD OBSERVATIONS: CLEAR, (OVERCAST), RAIN, SNOW, FOG
PARTIAL CLOUDS (CIRCLE ONE)

AIR TEMP 30F TIDE: HIGH, EBB, LOW, FLOOD

PARAMETERS (CHECK APPROPRIATE)

Bacti	☐	NH_3	☐	COD	☐
BOD	☐	NO_{2+3}	☐	PCB	☐
TSS	☐	TKN	☐	X-Ray	☐
Turb	☐	T-P	☐	Other BNAs Extractable Base-Neutral and Acids	
Organics	☐	O&G	☐		
VOA's	☐				

(METALS) (Total) Dissolved

Cd	☐	Fe	☐	Pb	☐
Cu	☐	Hg	☐	Sn	☐
Cr (T)	☐	Mn	☐	Zn	☐
*Cr (+6)	☐	Ni	☐	Other XRF	

*Unpreserved Sample

EPA R-1 7500-30

LAB CODE Nº 04744

PROJECT # 1291

STATION # 005

Y Y M M D D

DATE 950407

COLLECTION TIME 1100

SAMPLE TEMP °C ☐☐

PROBE-D.O. (mg/l) ☐.☐

pH - S.U. ☐☐.☐

CONDUCTIVITY (micromhos/cm) ☐☐.☐

SALINITY (0/00) ☐☐.☐

TOTAL DEPTH (ft) ☐☐

SAMPLING DEPTH (ft) ☐☐.☐

PRECAUTIONARY MEASURES AGAINST HIDDEN HAZARDS IN LABORATORY SAMPLES

Notice to Laboratory Personnel

Background

Under the authority of Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and its amendment, the Superfund Amendments and Reauthorization Act of 1986, Section 311 of the Clean Water Act, and Subtitle I of the Resource Conservation and Recovery Act (RCRA), the U.S. Environmental Protection Agency (EPA) has been designated the responsibility to undertake response actions with respect to the release or potential release of oil, petroleum, or hazardous substances that pose a substantial threat to human health and welfare, or the environment. In addition, EPA provides technical assistance to help mitigate endangerment of the public health, welfare or environment during other emergencies and natural disasters.

Hazard Communication

The samples which accompany this notice have been shipped to your laboratory for analysis in accordance with applicable U.S. Department of Transportation (DOT) or International Aviation and Travel Agency (IATA) regulations and were collected by name of agency/contractor and were tentatively designated by the field response team as environmental/hazardous/biohazardous samples.

In general, *Environmental Samples* are collected from streams, farm ponds, small lakes, wells, and off-site soils that are not reasonably expected to be contaminated with hazardous materials. Samples of on-site soils or water, and materials collected from drums, bulk storage tanks, obviously contaminated ponds, impoundments, lagoons, pools, and leaches from hazardous waste sites are considered *Hazardous Samples*. Samples which are obtained from a known radioactive background as scanned with a Geiger-Mueller radiation survey meter are considered *Radioactive Samples*.

The samples which accompany this notice have been tentatively classified by the field response team as:

___ Environmental ___✓ Hazardous ___ Comb. (Envir. & Haz.) ___ Radioactive

___ Other (describe) _____

The field team which collected the samples used the following Level(s) of personal protection as designated by EPA and OSHA conventions to provide protection against possible radiological or chemical exposure:

___ Level A ___ Level B ___ Level C ___✓ Level D

This information is intended for use as a guide for the safe handling of these laboratory samples in accordance with EPA and OSHA regulations. The samples classifications(s) and Levels of personal protection used by the WESTON TAT are not represented to be, nor are they adequate or applicable in all situations, nor are they intended to serve as substitutes for professional/personal judgement.

This form was prepared by: Tom A. Campbell 4/27/95

Analytical Services TDD No. _____ ___/___/___

WESTON Office: Burlington, MA Phone: 617-229-6430 Fax: 617-272-3619

Laboratory Name: NERL/EPA